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ANATOMICAL DEMONSTRATIONS;

OR,

COLOSSAL ILLUSTRATIONS

OF

HUMAN ANATOMY.

BY PROFESSOR SEERIG.

TRANSLATED FROM THE GERMAN.

PART I.

L O N D O N :

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PREFACE.

THE work which is now presented to the English public, is the production of Professor SEERIG, of Breslau. This gentleman has endeavoured to facilitate the study of minute anatomy, by the publication of copies of anatomical illustrations on a scale larger than life. His design having met with much approbation in this country, the importer of the work, A. SCHLOSS, has been induced to publish it in English.

The present and only number of the work which has yet appeared, consists of four Plates. Of these, the first is copied from the elder MECKEL'S Plate of the Nerves of the Face. The second, with the exception of some alterations which Professor SEERIG has thought proper to introduce, is taken

from the second Plate of Bock's Dissection of the Fifth Cerebral Nerve. The third and fourth Plates are derived chiefly, though not exclusively, from SOEMERRING's works on the Ear and Eye.

The work will be composed of six Parts, to appear from time to time, at short intervals, until completed.

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PLATE I.

SUPERFICIAL NERVES OF THE FACE.

JOHN FREDERICK MECKEL. *Mémoires de l'Acad. de Berlin.*
TOM. VII.

- A. Frontal Muscle, which is removed at the margin of the orbits.
- B. Occipital Muscle.
- C. Occipito-frontal Tendon.
- D. The Inferior Portion of the Orbicularis Palpebrarum.
- E. The Compressor Nasi.
- F.G. The Levator Labii Superioris Alæque Nasi.
- H. The Levator Anguli Oris.
- J. The Zygomaticus Major.
- K. The Superior and Inferior Portions of the Depressor Anguli Oris. (The muscle itself is cut away.)
- L. The Depressor Labii Inferioris.
- M. The Buccinator.
- N. The Orbicularis Oris.
- O. The Masseter.
- P. The Temporalis, which is covered by its aponeurosis, and has incisions made into it from before downwards.
- Q. The Retractor Muscle of the Ear.
- R. The Levator of the Ear.
- S. The posterior belly of the M. Digastricus.
- T. The M. Sterno-cleido mastoideus.
- U. The Submaxillary Gland.
- V. The Malar bone.
- W. The Zygoma.

- X. The Malar Process of the Frontal bone.
- Y. The Maxillary Process of the Malar bone.
- Z. Situation of the Foramen Mentale in the Lower Jaw.
- a. Commencement of the External Jugular Vein. [Commencement of the External Facial Vein. Ramus Superficialis, seu Externus Facialis. WALTHER. Tr.]
- b. The Posterior Facial Vein, or Great Temporal Vein.
- c. The Anterior Facial Vein.
- d. Vein of the Inner Canthus, continuous with the Anterior Facial. [Vena Nasalis Externa. MECKEL.]
- e. The Superior External Nasal Vein. [Vena Dorsalis Nasi. MECKEL.]
- f. The Internal Nasal Vein, which communicates with the preceding at the inner Canthus of the Eye.
- g. Frontal Vein. [Vena Frontalis, seu Supra Orbitalis, communicans cum Nasali Interna. MECKEL.]
- h. The External Supra-orbital or Anterior Ophthalmic Vein, which proceeds through the Supra-orbital Foramen from the orbit.
- i. The External Carotid Artery.
- k. The Occipital Artery.
- l. The Temporal Artery.
- m. The Superior External Auricular Artery.
- n. Anastomosis of Temporal and Occipital Arteries.
- o. Posterior branch of Temporal Artery.
- p. Anterior branch of Temporal Artery, and its communication with the Facial Artery.
- q. The Supra-orbital Artery, or branch of the Ophthalmic Artery, which accompanies the Frontal Nerve out of the orbit.
- r. The Facial Artery.
- s. The Coronary Artery of the Lower Lip.
- t. The Coronary Artery of the Upper Lip.
- u. Inferior Labial Artery.
- v. The Middle and Inferior Nasal Artery. [Arteria Nasalis Septi.]
- w. The Inferior Dorsal Artery of the Nose. [Arteria Pinnalis.]
- x. The Superior Dorsal Artery.
- y. Anastomosis of the Facial Artery with the Ophthalmic Artery. [Anastomosis of Internal and External Nasal Arteries. MECKEL.]
- z. The Parotid Duct.

1. The Great Frontal Nerve. [Nervus frontalis major,] from the First branch of the Fifth pair. It passes from the orbit through the Foramen Supra-orbitale.
2. Its internal branch.
3. Its external branch.
4. The Third or Anastomosing branch of the Frontal Nerve; it divides into branches, 5, 6, and 7.
5. A branch which subdivides into three twigs which join with the Supra-orbital branches of the Facial Nerve.
6. A branch which, passing upwards on the Forehead, communicates with the Second Superficial Temporal.
7. The Superior External Palpebral Nerve.
8. The Supra-trochlear, or small Frontal Nerve.
9. The Superior Middle Palpebral Nerve, which unites by a twig passing outwards with the branches 75 and 76 of the Facial Nerve.
10. A small branch anastomosing with the Infra-trochlear Nerve. No. 17.
11. A branch anastomosing with the Frontal branch of the Infra-trochlear. [The translator regrets to say that neither of these branches are given correctly in the plate. No. 10 should proceed directly to the Infra-trochlear Nerve, instead of ascending on the Forehead; the latter portion of the Nerve should have been given off from the Infra-trochlear Nerve at its exit from the orbit. The draughtsman has thus made two nerves into one. No. 11, instead of anastomosing, appears to pass behind the Infra-trochlear Nerve.]
12. A branch of the Supra-trochlear Nerve, which, passing outwards and backwards, unites with the Facial Nerve.
13. A branch of the Supra-trochlear Nerve, anastomosing with the internal branch of the Great Frontal Nerve.
14. The Frontal branch of the Supra-trochlear Nerve.
15. A Cutaneous Frontal branch of the Supra-trochlear Nerve, which, after crossing another Cutaneous Frontal branch, passes upwards and outwards.
16. A branch of branch 14, which passes up under the Frontal Muscle, and unites with the Great Frontal Nerve.

17. The Infra-trochlear Nerve, or Small Internal Frontal.
[A branch either of the Frontal Nerve or of the Nasal Nerve, or of both at once.]
18. The Superior Cutaneous Nasal Nerve, from the Nasal branch of the First division of the Fifth pair. [Rather above the situation of the letter E, the Ethmoidal branch of the first division of the fifth, will be found coming out between the edge of the Nasal Bone and the cartilage of the Nose under the M. Compressor Nasi. It is continued down along the nose, and anastomoses with the middle cutaneous nasal branch of the Infra-orbital Nerve. It was discovered by Professor Bock, and should have been introduced into this plate. Tr.]
19. The Infra-orbital Nerve, from the second division of the Fifth pair.
20. The External [Qu. Internal] Superior Cutaneous branch of Nerve 19, which passes through a small foramen of its own, [rariori exemplo. MECKEL:] at the inferior margin of the orbit.
21. A branch of Nerve 20, which turning round the vein d, passes to lower eyelid, and unites with the Infra-orbital branch of the Facial Nerve (No. 76.)
22. Continuation of Nerve 20 downwards, till it unites with the Nasal branch of the Facial Nerve (No. 89, 90.)
23. The Middle Cutaneous Nasal Nerve, [the second branch of the Infra-orbital Nerve. MECKEL.] It spreads downwards and forwards, dividing into five or six branches, to the skin of the nose. [These branches anastomose with termination of the Ethmoidal Nerve, mentioned above. Tr.]
24. Inferior cutaneous Nasal Nerve, [the third branch of the Infra-orbital Nerve. M.]
25. The First Superior Labial Nerve, [the fourth branch. M.]
26. The Second Superior Labial Nerve, [the fifth branch. M.]
27. The Third Superior Labial Nerve, [the sixth branch. M.]
28. The Fourth External Superior Labial Nerve, [the seventh branch. M.]
29. The Middle Inferior Palpebral Nerve, a branch of the First Superior Labial Nerve 25, or of the Inferior Cutaneous Nasal 24, [vix non semper nervi cutanei inferioris nasi. MECKEL.] It bends round the vein and passes upwards.

30. The External Inferior Palpebral Nerve, a branch of No. 28; bending round the vein, it passes to the lower eyelid, and communicates by a small branch with the inferior Cutaneous Malar Nerve.
31. The Inferior Cutaneous Malar Nerve. The first branch of the Ramus Maxillaris Superior, or second division of the fifth pair.
32. The Superior Cutaneous Malar Nerve, which passes through the superior Malar Foramen. It communicates downwards with the Facial Nerve, and upwards gives off a superior and inferior Palpebral branch.
33. The First Anterior Cutaneous Temporal Nerve. It passes out at the incision which has been made in the Temporal Aponeurosis. It is a branch of the second division of the fifth pair.
34. A branch of Nerve 33. It passes above the Aponeurosis.
35. A branch of Nerve 33, which unites with the root of the Second Anterior Cutaneous Temporal Nerve.
36. A branch of 33 communicating with the Facial Nerve.
37. The Second Anterior Cutaneous Temporal Nerve.
38. Communication of Nerve 37 with 33, [et unio eorundem in unum nervum.]
39. Its Ascending Cutaneous Temporal Branch.
40. A branch from 38, which unites with the Facial Nerve.
41. The Third Anterior Cutaneous Temporal Nerve. [These three Cutaneous Temporal Nerves are all branches of the second division of the fifth pair.]
42. A union of the Third Anterior Cutaneous Nerve with branch 73 of the Facial Nerve.
43. The Mental Nerve. A branch of the Inferior Maxillary, or third division of the fifth. [The artist has not given with sufficient distinctness the appearance of the nerve passing out of the Mental Foramen. Tr.]
44. The muscular branch of the Mental Nerve.
45. The first Anastomosis of the Mental Nerve, with the Facial Nerve, [117.]
46. The second Anastomosis backwards with the branches of the Facial. [118.]
47. Fibres of the Mental Nerve, which supply the Depressor Labii Inferioris.
48. The Internal Infra-labial Nerve.
- 49,50. The External Infra-labial Nerve.
51. The Buccinator Nerve.

52. A branch of the Buccinator Nerve 51, which passes obliquely over the Facial Vein, unites with branch 102 of the Facial Nerve.

53. A branch of the Buccinator Nerve, which runs behind the Facial Vein and Artery, and helps to form a loop round the Artery.

54. The superior branch of the Buccinator Nerve. It comes out between the Masseter and Buccinator Muscles, above the Parotid Duct.

55. The Facial Nerve. [Nervus durus, communicans faciei, sympathicus parvus,] as it comes out from the Stylo-mastoid Foramen.

56. The First deep branch of the Facial Nerve, or Posterior Auricular.

57. The Second deep or internal muscular branch of the Facial Nerve which divides

58. Into a Posterior and

59. Into an Anterior branch.

60. A branch of the Posterior Nerve 58, which passes to the posterior belly of the Muscle Digastricus.

61. A branch of Nerve 58, which perforates the Digastricus Muscle, ascends [in front of the Mastoid process,] and unites with the Laryngeal branch of the Pneumogastric Nerve.

62. The First branch of Nerve 59. It runs under the Parotid Gland to the external Carotid Artery, and unites with

63. A branch of the Sympathetic Nerve.

64,65,66. The Second branch of Nerve 59; giving off a branch to the Stylo-hyoideus Muscle, it descends behind the other branches of the Facial Nerve, as far as the Submaxillary Gland, and unites with a branch 135 of the Nerve Cutaneus Colli 126.

67. Division of the Facial Nerve into superior and inferior branches.

68. The First Temporal branch, or Posterior Zygomatic Nerve. It gives off an anterior auricular branch which anastomoses at .

69. With a branch of the Great Posterior Auricular Nerve 119. It gives off another branch to the anterior part of the Ear, and at

70. United in part with branch 73, passes upwards as the Posterior Cutaneous Temporal Nerve.

71. The ascending branch of the superior division of the Facial Nerve, or Nervus Zygomaticus Major.

72. The Descending or Facial branch of the superior division, which unites with the preceding into an Arch, [formerly called the *Pes Anserinus*,] from which different Nerves arise.
73. The Second Temporal, or Second Zygomatic Nerve.
74. The Third Temporal.
75. The Fourth Temporal, or Superior Orbital branch of the Facial Nerve.
76. The Fifth branch of branch 71, or Infra-orbital branch, likewise called the Malar Nerve.
77. The Superior Facial branch of Facial Nerve.
78. The Inferior branch, which unites with the Middle Facial Nerve 81.
79. A communicating branch, which, passing backwards, unites with the Posterior Cutaneous Temporal Nerve 139. [This is not shown well in the plate. Tr.]
80. The Inferior Orbital branch of branch 77.
81. The great Middle Facial Nerve.
82. A communication of the great Middle Facial Nerve with the Inferior Facial Nerve 93.
83. The superior branch of the Middle Facial Nerve.
84. Communicating branch with the Superior Facial Nerve.
85. The continuation of branch 83 under the *M. Zygomaticus*. Both branches of this Nerve unite above the *Musc. Zygomaticus* in a circle, from which a branch is continued to the lower margin of the Orbit.
86. The second or inferior branch of the Middle Facial Nerve. At this part the middle Facial Nerve unites with the inferior Facial Nerves.
87. Cutaneous branch for the lower margin of the Orbit, *Ramus Cutaneus Infra-orbitalis*.
88. A branch of the Middle Facial Nerve, which passes [*infra venam faciale*, *MECKEL*,] to the inner part of the lower Eyelid, and to the internal Canthus.
89. A branch of the Middle Facial Nerve, which ascends behind the Facial Vein, and forms at
90. A communicating branch, with the Superior Labial and Lower Cutaneous Nasal Nerves.
91. An Anastomosing branch, with First Superior Labial.
92. A branch to the Internal Angle of the Eye.
93. The Inferior Facial Nerve, from branch 72.

94, 94, 94. Three Anastomoses [of Nerve 93] with the Buccal Nerve 98, of the lower or descending branch of the Facial Nerve 97.

95. The junction of the Inferior with the Middle Facial Nerve.

96. The Inferior branch of the Middle Facial, which, going downwards, passes into the Plexus of the Facial Nerve. [It unites with the branches from the Buccinator Nerve 51, 53. Tr.]

97. The Descending branch of the Facial Nerve. [The student may have some difficulty, at first, from there being, by mistake, two different Nerves marked, in the plate, as 97. The other 97, which is continued from 86, is called by MECKEL, "Ramus superior facialis medii, qui procedit antrorum supra venam facialem." Tr.]

98. The Buccal branch of branch 97. [There may be some difficulty in finding the figure in the plate; it is on the Carotid Artery. Tr.]

99. A communicating branch with the Middle Facial Nerve.

100. A communicating branch with branch 94, of the Nerve 93.

101. The Inferior branch of the Buccal Nerve.

102. A branch of the Buccal branch, which unites with the Cutaneous Nerve of the Lower Jaw.

103. A branch of the Inferior Facial Nerve, which communicates with a branch of the Buccal Nerve [51,] and passes round the Facial Artery.

104. A communicating branch of the preceding Nerve with the Buccal Nerve.

105. A branch which unites with the Inferior branches of the Facial Nerve.

106. A communicating branch between branch 102 and the small Facial Plexus.

107. Inferior Maxillary branch of the Facial Nerve.

108. The communication with the Inferior Facial Nerve.

109. The communication with the Superior Cutaneous Nerves of the Neck.

110. A branch of the Nerve 107, which goes forward on the Lower Jaw.

111. The continuation and communication of the above branch backwards, with the smaller branch of the Buccinator Nerve 52, forwards and upwards, with the Internal Infra-labial.

- 112. The First Superior Cutaneous Cervical branch, from the Facial Nerve.
- 113. The Second Superior Cutaneous Cervical branch, from the Facial Nerve.
- 114. The Third Superior Cutaneous Cervical branch, from the Facial Nerve.
- 115. A communicating branch of the External Inferior Maxillary Nerve, with the Cutaneous Nerves of the Neck.
- 116, 117. A branch which arises from the circle formed on the Posterior Facial Vein, by the branches 108, 109, and 115: it gives off branches to the Nervus Mentalis, &c.
- 118. The Submaxillary branch which arises from the junction of the Cervical Nerves [No. 126,] with branch 107 of the Facial Nerve.
- 119. The great Posterior Auricular Nerve; a branch of the third Cervical Nerve.
- 120. Anterior branch of the Nerve, (a communicating branch, with the Superior Cutaneous Cervical Nerve.)
- 121. The lateral Cutaneous Nerve of the Face, [N. Cutaneus Lateralis Faciei,] which spreads itself through the skin which covers the Parotid Gland.
- 122. A branch of 119, which passes upwards on the M. Sterno-cleido Mastoideus, and sends
- 123. An Anastomosing branch to the Anterior Auricular branch of the Facial Nerve.
- 124. The middle branch of the Posterior Auricular.
- 125. The posterior branch of the Posterior Auricular Nerve.
- 126. The Cutaneous Nerve of the Neck. [N. Cutaneus Colli.]
- 127. The middle Cutaneous Nerve of the Neck.
- 128. The superior branch of this Nerve, which separates into the two branches, 130 and 131.
- 129. The inferior Cutaneous Nerve of the Face.
- 130. The communicating branch with the superior Cutaneous Nerves of the Neck.
- 131. The communicating branch with the Submaxillary branch, 118.
- 132. Lateral Cutaneous branch for the Inferior Maxilla.
- 133. Two other Cutaneous branches.
- 134. The Inferior Cutaneous Nerve of the Neck.

135. A communicating twig with the deep branch 66 of the Facial Nerve.
136. A Cutaneous branch for the anterior portion of the Maxilla.
137. A Cutaneous Nerve of the Neck, from the Facial, which unites with the Cutaneous Nerves of the Fourth Cervical.
138. A Lateral Cutaneous Nerve of the Face, which is sometimes wanting: it comes from the first Cervical Nerve, and is distributed to the skin, near the inferior portion of the Parotid Gland.
139. The Posterior Cutaneous Temporal Nerve.
140. The Anterior Auricular Nerve, or Cutaneus Tragi.
141. The soft Nerve of the Sympathetic, which accompanies the Carotid, the Maxillary, and Temporal Arteries. [This the draughtsman has omitted to mark: it unites with a branch of the Facial Nerve at 63. Tr.]

PLATE II.

THE PRINCIPAL BRANCHES OF THE FIFTH PAIR OF NERVES,

CHIEFLY FROM BOCK'S VERY EXCELLENT WORK,

*Bocks, Beschreibung des fünften Nerven paars und seiner
Verbindung mit Andern Nerven.*

- A. Perpendieular Section, close to the longitudinal furrow.
- B. Horizontal Seetion meeting the above, by which the left half of the skull has been removed.
- C. Section of the superior Plate of the Orbit.
- D. Superior margin of the Orbit.
- E. Inferior margin of the Orbit.
- F. Seetion of the anterior part of the Malar Bone.
- G. Seetion of the inferior Plate of the Orbit.
- H. Plaee where the ascending Plate of the lower Jaw has been sown off.
- I. Horizontal Plate of lower Jaw.
- K. Situation of the Mental Foramen.
- L. Cells of lower Jaw bone: the external Plate having been removed to shew the Alveoli and Roots of the Teeth, as well as the Nerves.
- M. Section of the Oecipital Bone.
- N. Carotid Canal.
- O. Canal of Fallopius laid open.
- P. The superior Semicireular Canal; the Petrous bone having been broken away.
- Q. Posterior Semieircular Canal.
- R. Horizontal Semieircular Canal.

- S. The Pterygoid or Vidian Canal laid open.
- T. The bony portion of the Auditory Meatus laid open; its end being bounded by the Membrane of the Tympanum.
- U. The external Plate of the superior Maxillary Bone having been removed, the roots of the Teeth, and their Nerves, may be seen.
- V. Infra-orbital Foramen.
- W. Styloid process of the Temporal Bone.
- a. The Scalp, with the Tendon of the M. Occipito Frontalis thrown back from the Occiput.
- b. The great Falciform Process of the Dura Mater.
- c. The little Falciform Process. (Falx Cerebelli.)
- d. The Tentorium.
- e. The Cartilaginous Pulley (Trochlea,) for the superior Oblique Muscle of the Eye.
- f. The Eyelid, with the layer of Fat, cut off and laid back.
- g. The somewhat thinner Part, where the internal Layer [Stratum Internum] is.
- h. The lining Membrane of the Maxillary Sinus, [Antrum Highmori.]
- i. Gums of the Upper Jaw.
- k. Gums of the Lower Jaw.
- l. The Eustachian Tube laid open.
- m. The cartilaginous Part of the Meatus Auditorius laid back against the Mastoid Process.
- n. The Larynx.
- o. The Mylo-hyoid Muscle.
- p. The Sterno-hyoid Muscle.
- q. The Thryo-hyoid Muscle.
- r. The great Cornu of the Os Hyoides.
- s. The Thyroid Gland.
- t. Hyoglossus Muscle.
- u. The Pharynx.
- v. Deep-seated Muscles of Neck.
- w. Circumflexus Palati Muscle.
- x. Globe of the Eye.
- y. Superior Oblique Muscle.
- z. Levator Palpebræ superioris.
- aa. Levator Oculi Muscle.
- bb. Depressor Oculi Muscle.
- cc. Inferior Oblique Muscle.
- dd. Lachrymal Gland.

ARTERIES.

- α. Common Carotid Artery.
- β. External Carotid.
- γ. Internal Carotid.
- δ. Superior Thyroid Artery.
- ε. Superior Laryngeal Artery.
- ζ. Lingual Artery.
- η. Facial Artery. It is cut off, as it passes on the jaw.
- θ. Submental Artery.
- ι. Ascending Palatine Artery.
- κ. Ascending Pharyngeal.
- λ. Place where the External Carotid has been cut off.
- μ. Frontal Artery.
- ν. A Frontal branch of the Ophthalmic Artery.
- ξ. A branch of the Temporo-frontal.
- ο. The Infra-orbital Artery cut off.

NERVES.

- II. The Optic Nerve.
- III. The Third Nerve, Oculo Muscular N.
 - 1. Its Superior branch.
 - 2. Its Inferior branch.
 - 3. The branch which forms the short root of the Lenticular Ganglion.
- IV. The Fourth Nerve: inner Oculo-muscular N. [N. Patheticus, Trochlearis.]

First Division of the Fifth Nerve.

- V. a. Ophthalmic Nerve, where it has been cut off from the Gasserian Ganglion.
 - 4. Its Frontal branch.
 - 5. A twig of the Frontal Nerve, which divides into the two following twigs 6 and 7.
 - 6. A branch which goes to the Frontal Sinuses.
 - 7. The other branch, which bends round the Superior Oblique Muscle, and coming forwards under the Trochlea, unites with the Infra-trochlear Nerve.

8. Supra-orbital Nerve within the Orbit.
9. Supra-orbital Nerve.
10. Supra-trochlear Nerve.
11. Nasal Nerve.
12. Branch to the Lenticular Ganglion, forming the long root of the Ganglion.
13. Lenticular, or Ciliary Ganglion.
14. Ethmoidal Nerve.
15. Infra-trochlear Nerve.
16. Lachrymal Nerve.

Second Division of the Fifth Nerve.

- V. b. Superior Maxillary Nerve, cut off from the Ganglion.
17. Ramus Subcutaneus Malæ.
18. Spheno-palatine Ganglion.
19. Vidian or Pterygoid Nerve in its canal, which has been broken open.
20. Superficial branch of Vidian Nerve, which joins with the Facial Nerve vii.
21. The deep branch of the Vidian Nerve.
22. A branch of this last Nerve, which goes down behind the Eustachian Tube to the Pharynx.
23. Branch which goes through the Spheno-palatine Foramen to the upper part of the Pharynx, and posterior part of the Nose.
24. Branch from the Spheno-palatine Ganglion, which unites with the Sixth Cerebral Nerve.
25. Branch of the Palatine Nerve, which forms a loop round the Internal Maxillary Artery. It is cut through.
26. The Anterior and External branches of the Palatine Nerve, lying close to one another.
27. Internal branch of Palatine Nerve.
28. Posterior Alveolar Nerve.
29. Its Posterior branch cut through.
30. A branch which passes down between the Alveoli to the Gum.
31. Anterior branch of the Alveolar Nerve, uniting in an arch with the Anterior Dental Nerve.
32. Branches which pass to the internal roots of the last Molar Teeth and to the Gum.
33. Branch to the Gum between the two last Molar Teeth.
34. Branch for both roots of the Fourth Molar Tooth.

35. Branch dividing into four twigs; two of which supply the roots of the Third Molar Tooth, and two the Gums.
36. Infra-orbital Nerve.
37. An unusual branch, anastomosing with the Posterior and Anterior Alveolar Nerves.
38. Anterior Alveolar Nerve.
39. A branch forming an arch with the Posterior Alveolar Nerve.
40. A branch cut through. It perforates the anterior plate of the jaw, and is distributed to the Buccinator Muscle.
41. Two branches, which, descending, pass into a plexus formed by their union with the arched branches of the Anterior and Posterior Alveolar Nerves.
42. Branches supplying the roots of the Teeth.
43. Continuation of the Anterior Alveolar Nerve.
44. Branch which passes through the Maxillary Bone into the Nose, under the Inferior Turbinated Bones.

V. c. Third Division of the Fifth Nerve.

45. Masseteric Nerves cut off.
46. The deep Temporal Nerves cut off.
47. The Buccinator Nerve cut off.
48. Roots of the Anterior Auricular, or Superficial Temporal Nerve.
49. An unusual third root of this Nerve.
50. The two anastomosing branches with Facial Nerve.
51. The branch which passes into the External Auditory Meatus, between the bony and cartilaginous portions.
52. The branch which ascends in front of the Cartilaginous Meatus, which is drawn backwards.
53. The branch which goes from it to the Membrane of the Tympanum, and unites with the Chorda Tympani.
54. Branch which spreads on the Internal Membrane of the External Auditory Meatus.
55. Continuation of the Auricular Nerve, cut off.
56. The Lingual branch: it becomes concealed by the lower jaw.
57. Place where the Corda Tympani joins the Lingual branch.

58. The Chorda Tympani, as it comes into view near the Malleus.
59. A frequently occurring branch, which descends from the trunk of the third division of the Fifth Nerve, and joins the Lingual branch along with the Chorda Tympani.
60. Pharyngeal branch of the Lingual.
61. Inferior Alveolar Nerve.
62. The Mylo-hyoid Nerve.
63. The Dental Nerve.
64. Branches which go chiefly to the Molar Teeth; some to the Gums.
65. Union of the two Dental branches, forming a considerable plexus.
66. Dental Nerves.
67. Nerves of the Gums.
68. The Mental branch, passing through the canal along with the Dental Nerve, and coming out of the Mental Foramen. It is placed somewhat low.
69. The Mental branch cut off.
- VI. The Trunk of the Sixth Nerve.
- VII. Place where the Facial Nerve makes a bend, and receives the superficial branch of the Vidian Nerve.
70. Facial Nerve, coming from the Stylo-mastoid Canal.
71. Facial Nerve, cut off.
- IX. Glosso-pharyngeal Nerve.
72. Its Superior branch.
73. Its Inferior branch.
74. Twigs of the Inferior branch, which go to the Pharynx.
- X. The Pneumogastric Nerve, as it comes from the Jugular Foramen. [The X. unfortunately is likewise placed below, on the Sympathetic Nerve.]
75. Its Pharyngeal branch.
76. Internal Laryngeal branch.
77. External Laryngeal branch.
- XI. Accessory Nerve.
- XII. Lingual Nerve.
78. Its Descending branch.
79. Twig to the Thyreo-hyoid Muscle.
80. Continuation of the Lingual Nerve.

The Sympathetic Nerve.

81. Superior Cervical Ganglion.
82. Anastomosing branch with the Pneumogastric Nerve.
83. The Trunk of the Sympathetic Nerve passing downwards. [Unfortunately the 83 is on the Pneumogastric, instead of the Sympathetic Nerve, which latter has been marked X. *Tr.*]
84. Superficial Cardial Nerve.
85. Its union with the external Laryngeal branches.
86. One of the large Vascular Nerves [nervus mollis]. It comes forward between the external and internal Carotid Arteries, and with the next nerve forms the vascular plexus [plexus nervorum mollium].
87. Branch which comes from the Glosso-pharyngeal Nerve, and Pharyngeal branch of the Pneumogastric Nerve.
88. Connecting branch between the Superior Laryngeal Nerve and the branch of the Glosso-pharyngeal Nerve, which descends to the vascular plexus.
89. Nervous threads which surround and accompany the Superior Thyoideal Artery.
90. Nervous threads for the Superior Laryngeal Artery.
91. Nervous threads for the Lingual Artery.
92. Nervous threads for the Facial Artery.
93. Nervous threads for the Ascending Palatine Artery.
94. Pharyngeal Plexus, which is formed from the branches of the Glosso-pharyngeal and Pneumogastric Nerves, and from branches of the Vascular Plexus.
95. Trunk of the Sympathetic Nerve, passing upwards on the Internal Carotid Artery.
96. Branch ascending to the Glosso-pharyngeal Nerve.
97. Anterior branch of the Sympathetic Nerve.
98. Posterior branch of the Sympathetic Nerve.
99. Twig which passes from the Glosso-pharyngeal Nerve, in a furrow of the promontory, upwards to the Facial Nerve: it unites by two twigs with the posterior branch of the Sympathetic Nerve.
100. Continuation of the Sympathetic Nerve, which unites by the two twigs in a plexus, by the one with the deep branch of the Vidian Nerve, by the other, the ascending twig with the Sixth Cerebral Nerve, [Nerv. abducens.]

101. Twigs which ascend from this plexus, and unite with the Third Cerebral Nerve.
102. Twigs which surround the Internal Carotid Artery in the cranium.

PLATE III.

ORGAN OF HEARING.

H. SOEMMERING *Abbildungen des Menschlichen Hoer-organes.*

FIG. I.

The Ear of Left Side.

- a. External Ear.
- b, c. The Meatus Auditorius, as it appears after the bone has been removed.
- d. The contraction and oblique direction of the Meatus Auditorius, bounded by the Membrane of the Tympanum and its bony ring.
- e. The Membrane of the Tympanum, somewhat convex on the inner side.
- f. The Manubrium, or long process of the Hammer [malleus] adhering to the Membrane of the Tympanum.
- g. The Slender Process [processus gracilis, P. angustior].
- h. Head of the Malleus.
- i. The Short Process of the Anvil [incus].
- k. The Long Process of the Anvil [incus], which, passing downwards, joins by a small stud to the Stapes.
- l. The Crura of the Stirrup Bone [stapes].
- m. Base of the Stirrup Bone [stapes].
- A. The outer or smallest Semicircular Canal.
- B. The posterior, oblique, or largest Semicircular Canal.
- C. The Vertical or Superior Semicircular Canal.
- n, o. The Vestibule.
- p. The Cochlea.
- A, B, C, n, o, p. The Labyrinth.

FIG. II.

The Hammer [Malleus], viewed from the outer surface,
which is directed towards the Membrane of the
Tympanum.

a. The Slender Process.

b. The Short Process.

c. The Handle [Manubrium] which adheres between the
laminæ of the Membranes of the Tympanum.

d. The Neck.

e. The Head of the Bone.

[*] The smooth articular surface covered with cartilage, by
which the Malleus is fitted to the articular surface of
the Incus.

FIG. III.

The Hammer [Malleus] viewed from its inner side,
which faces the cavity of the Tympanum.

The parts marked a, c, d, e, and *, are the same as in
the preceding figure.

FIG. IV.

The Anvil [Incus] viewed from the outer side.

f. The Body of the Bone.

g. The Short or Posterior Process, or Crus.

h. The Long or Anterior Process, or Crus.

i. The Stud [os orbiculare], with its articular surface di-
rected inwards to join the Stapes.

[*] Articular surface of the Anvil [Incus], joining the
Hammer [Malleus].

FIG. V.

The Anvil [Incus] from the inner side, which faces the
cavity of the Tympanum.

f. The Body.

g. The short Crus, with a small cartilaginous surface.

h. The long Crus.

i. The Stud [Os orbiculare] at the end of the long Crus.
It is covered with cartilage, to join the Stapes.

FIG. VI.

The Anvil [Incus] viewed from the side.

a. b. The long Process, curved in an *f* shape.

- c. The Stud, [os orbiculare of older anatomists. *Tr.*] to join with the Stapes.
- d. The Neck of the Stud.
- e. Articular Surface, covered with cartilage for the junction with the Malleus.
- f. The Short Process, hardly seen in this position of the bone.

FIG. VII.

The Stirrup Bone [Stapes,] viewed from what, in the natural position, is the inferior surface.

- a, b. The Head, with its oblique, cartilaginous, articular surface.
- c. The Neck.
- d. The Anterior, somewhat straight, Crus.
- e. The Posterior, bent, Crus.
- f. The Base.

FIG. VIII.

The Stapes viewed horizontally.

- a. The Cartilaginous Articular Surface, which joins the Stud of the Anvil [Incus].
- b. The Anterior Crus.
- c. The Posterior.
- d. The Base, the superior margin of which is somewhat curved.

FIG. IX.

The Stirrup Bone, viewed from its superior surface.

- a, b. The Head.
- c. The Neck, somewhat uneven from the attachment of the muscle.
- d. The Anterior Crus.
- e. The Posterior Crus, which, as is attempted to be shown by the shading, is somewhat hollowed at g.
- f. The Base.

FIG. X.

Perpendicular section of the Stirrup Bone, showing the groove in the Crura.

- a, b, c, d. The cut surface of the Bone.
- e, f, g, h. The Groove.

FIG. XI.

Base of the Stirrup Bone, viewed from the side which is turned towards the Labyrinth.

FIG. XII.

The Labyrinth viewed from above.

a, 1, 2, 3. The Cochlea.

a, a. The Round Hole [fenestra rotunda].

1. The largest Whirl [gyrus] of the Cochlea.
2. The second, smaller Whirl.
3. The smallest Whirl, or Cupola of the Cochlea.

c, d, e, f. The Vestibule.

b, c. The Oval Hole [fenestra ovalis] of the Vestibule, to which the base of the Stapes is fixed.

d. Semi-canals for the Nerve passing to the Elliptical Vesicles of the middle and smallest Semicircular Canals. [Semicanalem hunc nullibi descriptum et depictum inveni. SOEMERRING.]

g, h, i. Largest or Posterior Semicircular Canal.

g. Its Oval Enlargement.

h. The Arch.

i. Its union with the Superior Semicircular Canal, forming one Tube n.

k, l, m. The Middle, Superior, or Vertical Semicircular Canal.

k. Oval Enlargement.

l. The Arch.

m. Union with the Posterior Semicircular Canal, to form the common Tube n.

o, p, q. The Smallest, or horizontal Semicircular Canal.

o. Oval Enlargement.

p. The Arch.

q. The Termination in the Vestibule.

FIG. XIII.

Section of the Cochlea, obliquely from before backwards, and a little to one side.

I. The First Whirl [gyrus] of the Cochlea.

II. The Second Whirl of the Cochlea.

III. The Third Whirl of the Cochlea.

a. The Cupola.

b. The Modiolus.

c. The Canal in the Pyramid of the Temporal Bone, for the Auditory Nerve.

d. Bony Canal for the Auditory and Facial Nerves.

e, f, g, h, i. Bony part of the Spiral Plate.

g, h. The Hook [hamulus] of the Spiral Plate.
 i, 2, 3, 4. Lower Canal or Stair [scala tympani] of the Cochlea.
 k, l, m, n. Upper Canal or Stair [scala vestibuli] of the Cochlea.

FIG. XIV.

Larger half of the Cochlea, divided by a perpendicular section through the middle of the Modiolus, in the direction of the line * in figure xii.

a. External Surface of the Cochlea.
 b. The Modiolus, through the fine apertures of which the Auditory Nerve passes to the Spiral Plate.
 I. First Whirl [gyrus] of the Cochlea.
 II. Second Whirl.
 III. Third Whirl, or Cupola, of the Cochlea.
 c, d, e, f, g, h, i. Spiral Plate of the Cochlea.
 l, 2, 3, 4, 5, 6, 7. Inferior Canal, or Scala Tympani.
 d, c, f, g, h. Superior Canal, or Scala Vestibuli.
 7. Part where the Superior and Inferior Canals [scalæ] meet.
 i. 6. The Infundibulum, divided near the middle.
 m. Small Bony Process, in which the Spiral Plate terminates.
 n, n. Longest Diameter of the Cochlea. It answers to the line marked * in figure xii.

FIG. XV.

Labyrinth laid open.

a, b, c, d, e. Spiral Plate, seen from above.
 a. First Whirl [gyrus] of the Spiral Plate.
 b. Second Whirl.
 c, d, e. Third Whirl, which, from the Hamulus, is attached, in a funnel shape [infundibuliformis] to the Cupola.
 d, e. The free Margin of the Spiral Plate.
 1, 2, 3, 4. The four different Stripes or Zones of the Spiral Plate.
 1. The Bony [zona ossea].
 2. The Transparent [zona alba, pellucida].
 3. The Vesicular [zona vesicularis].
 4. The Membranous [zona membranacea, mucosa].

- f. The Spherical Sacculus [sacculus vestibuli]. It has no communication with the common Sacculus h.: even when perforated, it retains its form. It lies in a groove, of corresponding shape, in the Vestibule.
- g. Space between the Spherical Sacculus and the common Sacculus.
- h. The common Sacculus [utriculus communis, alveus communis], which is in connexion with the three semicircular Tubes, 1, 2, 3, 4, 5.
- l, k, i, 3. The largest Cartilagineo-membranaceous Tube.
- l, i. Elliptical Vesicle [ampulla].
- k. Radiated Expansion of the Nerve on the Vesicle.
- 2, l, m. Smaller Cartilagineo-membranaceous Tube.
- l. Elliptical Vesicle, and Expansion of the Nerve upon it.
- 4, n, 5. Smallest Cartilagineo-membranaceous Tube, which unites with common Sacculus h., at 4, by the Vesicle n, and at 5 by a narrow termination.

PLATE IV.

REPRESENTATIONS OF THE ORGANS OF HEARING AND OF SIGHT.

FIG. I.

Represents the Cupola of the Cochlea laid open, so as to show the Funnel Termination of the Spiral Plate.

- 7. Modiolus of the Cochlea.
- II. g, 4. Remainder of the Second Whirl [gyrus] of the Cochlea.
- 4, 5, 6. Inferior Canal [scala tympani.]
- g, h. 8. Top piece of the Spiral Plate, which is attached, at 9, To the Cupola.

FIG. II.

The smaller half of the Cochlea, cut perpendicularly through the Modiolus. [See Plate III. Fig. xiv.]

The parts corresponding are marked with the same figures and letters as in Plate III. Fig. xiv.

FIG. III.

Bony Receptacle of the Cochlea [receptaculum osseum conchæ], cut straight through from before backwards.

- a. Bony Canal for the Auditory and Facial Nerves.
- b. Modiolus cut through, showing the apertures for the Auditory Nerve.
- c. Chink between the Bony Part of the Spiral Plate and the receptacle of the Cochlea. [Hiatus inter partem osseam laminæ spiralis et receptaculum cochlea.]
- d. Bony Plate coming off from the Modiolus.
- e. Hamulus of the Spiral Plate.

FIG. IV.

Labyrinth laid open, so as to show the direction of the Arteries in their course inwards.

- a. First Whirl [gyrus] of the Cochlea, laid open.
- b. Internal surface lined with Periosteum.
- c. The Bony Part of the Spiral Plate in the First Whirl.
- d. Vestibule.
- e. Semicanal.
- G. The Great or Posterior Semicircular Canal laid open.
- K. The Vertical or Anterior Semicircular Canal laid open.
- M. The common Tube, formed by K and G.
- L. The Smallest, or Horizontal Semicircular Canal.
- f. Artery of the Labyrinth, arising from the Artery of Pons Varolii, sends fourteen branches to the Cochlea, and two,
- g, g. To the Vestibule.
It radiates from the centre to the circumference of the Cochlea, and sends its branches,
- h, h. To the Spiral Plate.
- i, i. To the Periosteum.
The Arteries of the Semicircular Canals, G and K, follow the direction of the Canals.

FIG. V.

Labyrinth laid open, showing the parts contained in it.

- a, b, c. The Cochlea, showing the course of the Spiral Plate.
- d, e, f. The Vestibule.
- g, h, i. The Great, or Posterior Semicircular Canal.
- k, l, m. The Vertical, or Anterior Semicircular Canal.
- n. The common Tube of these two Canals.
- o, p, q. The Small, or Horizontal Semicircular Canal.
- l, 2, 3. The Spiral Plate of the Cochlea.
 - r. The Edge of the Spiral Plate, which passes over into the Periosteum of the Cochlea.
 - 9. The two Sacculi of the Vestibule, which, from this side, appear as a common Bag.
- t, u. The Membranaceo-cartilaginous Tube of the Posterior Semicircular Canal.
- t. The Elliptical Vesicle.
- v, w, x. The Membranaceo-cartilaginous Tube of the Vertical Semicircular Canal.
- y, z. Terminations of the Tube of the Small or Horizontal Semicircular Canal.

α , β , γ , *. The Auditory Nerve.

* Anterior large Branch for the Cochlea: passing through the sieve-like base of the Cochlea, and through the canals of the Modiolus, it radiates on the Spiral Plate.

- α . Posterior large Branch, supplying the elliptical Vesicles of the Vertical and Horizontal Semicircular Canals.
- β . Middle Twig, supplying the Spherical Sacculus.
- γ . Small Twig for the elliptical Vesicle of the Great or Posterior Semicircular Canal.

FIG. VI.

The Temporal Bone, laid open in front to show the internal Muscles of the Ear.

1. Section of the Bone, where the squamous portion has been removed.
2. Anterior Surface of the Petrous Portion of the Temporal Bone.
3. Superior Anterior Semicircular Canal.
4. Posterior, or great Semicircular Canal.
5. Horizontal, or small Semicircular Canal.
6. The Cochlea.
7. Mastoid Process of Temporal Bone.
8. Portion of Dura Mater, left on surface of the Bone.
9. External Ear.
10. Auditory Passage laid open.
11. Eustachian Tube, opened longitudinally.
12. Curved Plate, helping to form the Semi-canal of the M. Tensor Tympani.
13. The Inferior Plate, curved upwards, separating the Semi-canal of the M. Tensor Tympani from the bony portion of the Eustachian Tube lying below it.
14. The closed Portion of the Semi-canal of the M. Tensor Tympani.
15. The Hammer [malleus].
16. The Anvil [incus].
17. Part where the Anvil joins the Stirrup Bone.
18. Membrane of the Tympanum, convex on the inner side.
19. M. Tensor Tympani.
20. M. Externus Mallei passes through the Fissura Gasser: it is attached to the Processus Gracilis of the Malleus.
21. M. Stapedius.

22. M. Laxator Tympani. [The line connecting the number with the muscle is omitted in some of the prints.]
23. The Internal Carotid Artery, surrounded by Nervous Filaments, passing through the Petrous Bone.
24. The Facial Nerve, passing through the Fallopian Canal.
25. The Superficial Petrosal Branch of the Vidian Nerve, in its course to join the Facial Nerve, lying in the Hiatus Canalis Fallopii, which is here broken open.
26. Branch of the Facial, supplying the M. Tensor Tympani.
(In front of and behind No. 21, the Facial Nerve gives off two other branches; the one to the Tympanum, the other to the M. Stapedius.)
27. Chorda Tympani, which goes through a canal of its own in the back part of the Tympanum, on the outer side of the long process of the Incus, passes to the inner side of the Malleus, and comes out through the Fissura Glaseri.

FIG. VII.

Perpendicular Section of the Left Eye: the Eyelids are closed.

A to Q. Bony Socket of the Eye.
 A to H. Superior Plate of the Socket.
 A, B. Smooth Orbital Surface of the Plate.
 C, C, G, H. Cerebral Surface of the Plate.
 A, D, E, F. Frontal Portion of Frontal Bone.
 C, C, G. Orbital Portion of Frontal Bone.
 E, E. Diplöe of Frontal Portion.
 F. Left Frontal Sinus.
 F, F. Diplöe of Orbital Portion.
 G. Suture between the Frontal Bone and the Superior Wing [ala] of the Sphenoid Bone.
 G, B, H. Part of the Superior or Small Wing [Ala minor, superior,] which forms the superior portion of the Canal for the Optic Nerve.
 Q, M. Inferior Plate of the Orbit.
 I, I. Superior Maxillary Bone.
 K, L. Orbital Fissure.
 M. Part of the Superior or Small Ala of the Sphenoid Bone, forming the inferior Portion of the Optic Foramen.

L. The Periosteum.

B, H, M. Canal in the small Ala of the Sphenoid Bone, for the Optic Nerve.

N. Periosteum of the Frontal Bone.

O. Continuation of the Frontal Periosteum towards the upper Eyelid, forming an areh almost tendinous.

P. Periosteum of Superior Maxillary Bone.

B. Continuation of the Maxillary Periosteum towards the lower Eyelid, forming an areh almost tendinous.

* Axis of the Cone of the Soeket.

R, V. External Layer of Dura Mater.

S. Internal Layer.

T, U, V. Place where the Dura Mater adheres;

T, Partly with the Periosteum of the Soeket;

U, Partly with the Sheath of the Optic Nerve;

V, Partly with the Cellular Membrane of the Tendons of the Lexator Palpebræ Superioris (1); and of the Levator Oeuli (4).

W, Z. The Forehead.

W. The Corion, or Cutis Vera.

Y. Fat between the Skin and Frontal Muscle.

X. Frontal Muscle.

Z. Fat between the Frontal Muscle and Periosteum of Frontal Bone.

a, d. The Eyebrow.

a. M. Corrugator Supercili.ii.

b. Frontal Vein.

c. Frontal Artery.

d. Hairs of the Eyebrow.

e, w. Upper Eyelid.

e. The thin Corion of the Brow.

f. Fat superficiale to the M. Orbicularis Palpebrarum, whieh gradually disappears towards the margin of the Lid.

g. M. Orbicularis Palpebrarum.

h. Fat deeper than the M. Orbicularis Palpebrarum: it gradually disappears towards the margin of the Lid.

i. Tendon of the M. Levator Palpebrae Superioris.

k. Thin Cellular Membrane between this Tendon and the Tunica Conjunetiva.

l. Cartilage of the Eyelid.

m. Traees of Sebaceous Follieles.

r, r, s, t. Tunica Conjunctiva of Upper Lid;

r, r, Where it covers the Cartilage and Sebaceous Glands;
 r, s, Where it is attached by thin Cellular Membrane to the
 Tendon of the Levator Palpebræ;

r, k, s, t, Where it is reflected;

s, t, Where it covers the Tunica Sclerotica.

y, r, t, s. The Superior Bag of the Tunica Conjunctiva, or
 space between its two Layers; of which one covers
 the Eyelid, and the other the Globe of the Eye. This
 space is represented by a thick line, as the two layers
 are in contact.

o, p, q. Margin of Upper Lid.

o. The internal thin Lip of this Margin.

p. The external thick Lip of this Margin.

q. Place of the Transition of the Skin of the Face into the
 Tunica Conjunctiva.

u. Eyelashes of Upper Lid.

n. Coronary Artery of Upper Lid.

a—q. Lower Eyelid.

a. Thick Skin of the Cheek, becoming thinner as it passes
 on the Eyelid.

b. Fat superficial to the M. Orbicularis Palpebrarum.

c. M. Orbicularis Palpebrarum.

d. Fat deeper than the M. Orbicularis Palpebrarum.

g, e. Cartilage of Lower Lid. The jagged line represents
 the traces of Sebaceous Glands.

f, h, g. Margin of Lower Lid.

f. External thick Lip of the Margin.

g. Internal thin Lip of the Margin.

h. Groove between these two Lips.

f, q. Transition of the Skin of the Face into the Tunica Con-
 junctiva.

y. Triangular Groove between the two Eyelids and the
 Globe of the Eye.

k, l, m, n. Tunica Conjunctiva of Lower Eyelid;

g, k, Where it invests the Cartilage and Sebaceous Glands;

k, l, Where it adheres by fatty Cellular Membrane to the
 lower portion of the Orbicularis Palpebrarum;

l, Where it is reflected;

n, m. Where it covers the Sclerotic Coat.

y, l. Inferior Bag of the Conjunctiva, or space between its
 two Layers. This space is marked by a thick line, as
 the two layers are in contact.

p. Inferior Eyelashes.

q. Rhomboid space between the Eyelashes and Margins of the Lids.

1—11. Museles of the Eye.

1, 2, 3. M. Levator Palpebræ Superioris.

1. The Tendinous Origin attaeched to the Periosteum of the Soeket.
2. Tendinous Insertion extending over the Cartilage of the upper Lid, and lost in the Margin.
3. The Flesh of the Musele; (not marked in some of the prints. *Tr.*)

4, 5, 6. M. Levator Oeuli:

4. Tendinous Origin, attached to the Sheath of the Optie Nerve, somewhat in advancee of the attaehlment of the Depressor Oeuli.
5. Tendinous Insertion, whieh, about 28, passes into the Sclerotie Coat.
6. The Flesh of the Muscle; (not marked in some of the prints. *Tr.*)

7, 8, 9. M. Depressor Oeuli.

7. Tendinous Origin, attaeched to the Sheath of the Optie Nerve, rather in the rear of the attachment of the Levator Oculi.
8. Flesh of the Musele.
9. Tendinous Insertion, lost in the Selerotie Coat, about m.
10. Tendon of the Superior Oblique Muscle of the Eye.
11. Flesh of the Inferior Oblique Musele of the Eye.

12—18. Optie Nerve, bent in an *f* shape, in part still eovered with fat.

12, 13. Sheath of the Optie Nerve, arising from the Dura Mater. 12. The internal Layer of the Sheath. 13. The external Layer.

14. Choroid Membrane of the Optie Nerve.
15. Fibrous Substancce of the Optie Nerve cut through.
16. The Optie Nerve passing the Canal: it appears as if eompressed from above downwards.
17. Cylindrieal Portion of Optic Nerve; (the number is omitted in some of the prints.)
18. Termination of the Optic Nerve, eontracted and let in to the Selerotie Coat.
19. Trunk of the Ophthalmie Artery.
20. Trunk of the Ophthalmic Vein.
21. Twigs of the first division of the Fifth Nerve.

22—43. Ball of the Eye.

22. Axis of the Ball of the Eye.

20. Greatest Transverse Diameter of the Eyeball.

24. Section of the Cornea, showing its curve, and its attachment to the Sclerotic.

25, 26. Space between the Cornea and the Lens.

25. The Anterior Chamber.

26. The Posterior.

24, *t*, and 24, *r*. Double Groove between the Cornea and the Sclerotic.

27, 28, 29. Sclerotic Coat of the Eyeball.

27. Anterior Termination of the Sclerotic attached to the Cornea, and showing internally a double groove, in which the Ciliary Ligament [*annulus gangliformis tunicæ choroideæ*] is fixed.

28. Thinnest Portion of the Sclerotic, covered by the Tendons of the Recti Muscles.

29. Thickest Posterior Portion of the Sclerotic.

30. The Pigmentum Nigrum between the Sclerotic and Choroid Coats.

31—37. The Choroid Coat of the Eyeball.

32, 33. Ciliary Ligament [*annulus gangliformis tunicæ choroideæ*,] by which the Choroid Coat is fixed to the Sclerotic.

32. Base or thick Portion of the Ligament, which, towards the cavity of the Cornea, terminates by a smooth Margin.

33. Apex of the Ligament.

34, 35. Ciliary Body.

34. Anterior or thicker End of a Ciliary Process.

35. Posterior End, terminating in a fine point.

34, 39, 39. Portion of the Choroid Coat, not covered by the Retina, shining through the Vitreous Humour.

39, 46, 39. Place where the Choroid Coat of adult Eyes generally becomes brighter: [*Locus choroideæ, qui in bulbis adultis plerumque est lucidior.*]

36, 37. The Iris.

36. The edge to which the Iris is attached, and thus appears as a continuation of the Ciliary Ligament and Ciliary Body.

37, 26, 26, 37. Margin of the Pupil.

38. Pigmentum Nigrum between the Choroid Coat and the Retina.

39, 40, 41. The Retina.

39. Anterior Termination of the Retina, which is marked by the line 39, 46, 39.

40. Nervous Substance of the Retina [medullaris retinæ substantia].
41. Choroid Coat, on which the nervous substance [medulla] is, as it were, deposited.
- 39, 41, 23, 22, 46, 39. Internal Surface of the Retina, which shines through the Vitreous Humour.
- 42—46. The Lens.
- 43, 42. The long Diameter of the Lens.
- 44, 45. Short Diameter.
- 42, 44, 43. Anterior Convexity.
- 42, 45, 43. Posterior Convexity.
- 46, 26. Capsule of the Lens.
- 34, 42. Distance of the Lens from the Ciliary Body.

FIG. VIII.

View of the Socket; the Orbital Plate of the Frontal Bone having been removed. (HALLER, *Icon. Anat.* fasc. vii. tab. vi. fig. 2.)

1. Optic Nerve.
2. Eyeball.
3. Lachrymal Gland.
4. Portion of Malar Bone.
5. Portion of Frontal Bone.
6. The Trochlea.
7. The Upper Eyelid.
8. The Under Eyelid.
9. The Levator Palpebræ Superioris, laid aside.
10. The Levator Oculi, likewise laid aside.
11. Portion of the Periosteum of the Socket.
12. The Superior Oblique Muscle.
13. The Tendon of the Superior Oblique Muscle.
14. The Adductor Oculi.
15. The Depressor Oculi.
16. The Abductor Oculi.
17. Portion of the Inferior Oblique Muscle.
18. The Internal Carotid Artery.
19. The Ophthalmic Artery.
20. The External Ciliary.
21. A Branch for the Levator Palpebræ.
22. A Branch for the Abductor Oculi.
23. The Central Artery of the Retina.
24. Branches for the Levator Palpebræ and Levator Oculi, cut off.

25. A branch for the Adductor Oculi.
26. The Superior Ciliary Artery.
27. The Inferior Branch of the Ophthalmic Artery, or Inferior Artery of the Eye.
28. Branches for the Depressor Oculi.
29. The Inferior Ciliary Artery.
- 30, 31. Branches for the Adductor Oculi.
32. The Internal Ciliary Artery.
33. The Supraorbital Artery.
34. The Anterior Ethmoidal Artery.
35. The Posterior Ethmoidal Artery.
36. A Branch for the Adductor Oculi and the Sclerotic.
37. A small Branch for the Trochlea.
38. Another Branch for the Tendon of the Superior Oblique Muscle.
39. The Palpebral Branch.
40. The Arch of the Superior Tarsus.
41. A Branch for the Inferior Eyelid.
42. Branch to the Eyebrow, cut off.
43. The Nasal Branch.
44. The Lachrymal Branch.
45. Branch of this Artery, for the Levator Palpebræ and Levator Oculi.
46. A Branch for the Periosteum of the Socket.
47. The Artery which perforates the Malar Bone.
48. A Branch for the Sclerotic and for the Upper Eyelid.
49. A Branch for the Lower Eyelid.
50. A Branch which unites with a small Branch of the Temporal Artery.
51. A small Branch for the Orbicularis Palpebrarum.
52. A Branch of the Temporal Artery, going to the Arch of the Tarsus.

FIG. IX.

The Ciliary Arteries. (HALLER, *Icon. Anat.* fasc. vii. tab. vi. fig. 4.)

1. The Optic Nerve.
2. The Sclerotic, cut through, and laid back.
3. The Cornea.
4. The Ophthalmic Artery.
- 5, 6. Ciliary Arteries.
7. The Central Artery of the Retina.

8. A Branch, which goes into the hard Sheath [dura mater] of the Optic Nerve.
9. An Arterial Ring at the insertion of the Optic Nerve.
- 10, 11. The Long Ciliary Arteries.
12. Four Anterior Ciliary Arteries.
13. The Posterior Ciliary Arteries, which perforate the Sclerotic.

FIG. X.

The Cornea is removed, so as to show the Iris with its Vessels. (HALLER, *Icon. Anat.* fasc. vii. tab. vi. fig. 6.)

- 1, 2. The Long Ciliary Arteries, which divide into two branches.
3. The Anterior Ciliary Arteries.
4. The Ciliary Ring.
5. The Larger Circle of the Iris.
6. A Portion of the Smaller Circle. [The whole circle cannot be seen, as all the vessels are not equally well filled.]
7. The Lens.